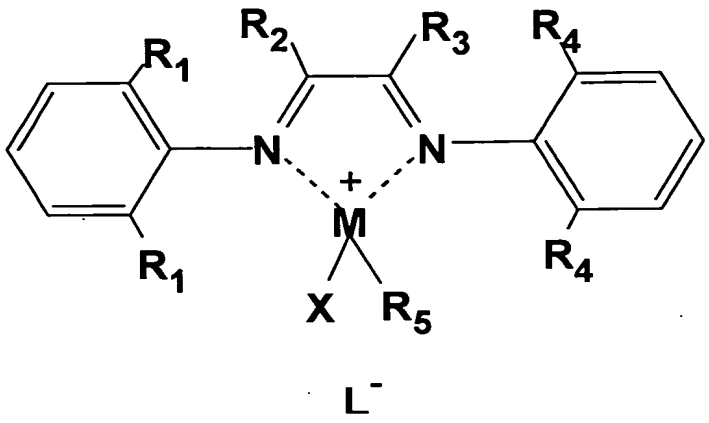
CLAIMS

1. A polyolefin graft copolymer produced in the presence of a late transition metal complex coordination polymerization catalyst by graft copolymerization of an olefin monomer with a silicone macromonomer prepared by emulsion polymerization.

2. The polyolefin graft copolymer according to claim 1, wherein the late transition metal complex coordination polymerization catalyst is a complex of a ligand having two imine nitrogen atoms and a transition metal selected from those of Groups 8 to 10 of the periodic table.

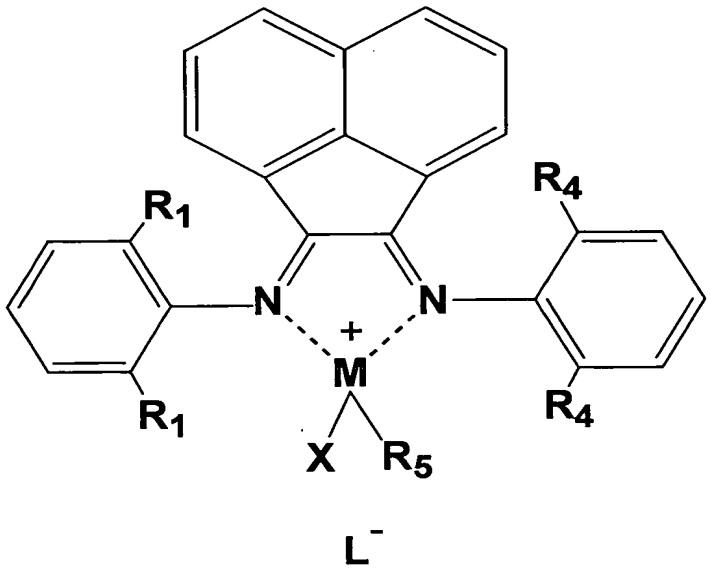
3. The polyolefin graft copolymer according to claim 2, wherein the late transition metal complex coordination polymerization catalyst is a complex of an α-diimine ligand and a transition metal selected from those of Group 10 of the periodic table.

4. The polyolefin graft copolymer according to claim 3, wherein the late transition metal complex coordination polymerization catalyst is an active species represented by general formula (1) or (2) after the catalyst is reacted with a co-catalyst:



(1)

(wherein M is palladium or nickel; R_1 and R_4 are each independently a C_1-C_4 hydrocarbon group; R_2 and R_3 are each independently a hydrogen atom or a methyl group; R_5 is a halogen atom, a hydrogen atom, or a C_1-C_{20} organic group; X is an organic group containing a heteroatom that can coordinate to M, wherein X may be bonded to R_5 or may be absent; and L^- is an anion);



(2)

(wherein M is palladium or nickel; R_1 and R_4 are each

independently a C_1-C_4 hydrocarbon group; R_5 is a halogen atom, a hydrogen atom, or a C_1-C_{20} organic group; X is an organic group containing a heteroatom that can coordinate to M, wherein X may be bonded to R_5 or may be absent; and L^- is an anion).

5. The polyolefin graft copolymer according to any one of claims 1 to 4, wherein the silicone macromonomer prepared by emulsion polymerization is a silicone macromonomer produced by reacting an organosiloxane with a compound having, in its molecule, a functional group reactive with the organosiloxane and a carbon-carbon double bond for coordination polymerization.

6. The polyolefin graft copolymer according to any one of claims 1 to 5, wherein the polyolefin in the polyolefin graft copolymer has a branched structure.

7. The polyolefin graft copolymer according to any one of claims 1 to 6, wherein the olefin monomer is ethylene or propylene.

8. A composition containing the polyolefin graft copolymer according to any one of claims 1 to 7.

9. The composition containing the polyolefin graft copolymer according to claim 8, wherein the composition contains a polyolefin resin as a component.

10. A process for producing the polyolefin graft copolymer according to any one of claims 1 to 7.

11. A process for producing the composition according to claim 8 or 9.